

WHAT IS CLAIMED IS:

1. A method of mapping an optical network, said optical network comprising a plurality of network elements (NEs), some adjacent pairs of NEs of said plurality of NEs communicating using optical fibers, one or more of said some adjacent pairs forming optical links, said method comprising:

identifying NEs which, together with optical fibers therebetween, form an optical link;

organizing statistical data retrieved from each identified NE into a map which corresponds to the physical layout of said optical link.

2. The method of mapping of claim 1 further comprising:  
correlating said each identified NE with a list of NEs intended to represent NEs for said optical link.

3. The method of mapping of claim 1 wherein said retrieved statistical data comprises performance indicia of said identified NEs.

4. The method of mapping of claim 1 wherein said identifying NEs comprises:

for a selected NE, retrieving data identifying NEs in communication with said selected NE.

5. The method of mapping of claim 2 wherein said identifying NEs in communication with said selected NE comprises:

through communication with said selected NE and said NEs in communication with said selected NE, retrieving identity data corresponding to the identity and configuration of said NEs with which said NE communicates.

6. The method of mapping of claim 5 wherein said statistical data is retrieved using networked communication.

7. The method of mapping of claim 6 wherein said identity information retrieved corresponds to wavebands used by said selected NE and said NEs in communication with said selected NE.

8. The method of mapping of claim 7 wherein said organizing comprises:

for each waveband used by identified NEs which, together with optical fibers therebetween form an optical link, forming a data structure corresponding to said optical link, said data structure comprising a data block for each of said identified NE and said NEs in communication with said selected NE;

associating data structures formed for said optical link with each other; and

populating said data blocks of said associated data structures with said statistical data retrieved.

9. The method of mapping of claim 8 wherein said each waveband used by said identified NEs comprise a red waveband and a blue waveband.

10. The method of mapping of claim 8 further comprising:

displaying a graphical representation of said optical link, said graphical representation corresponding to said data blocks and data structures.

11. A method for facilitating management of an optical network, comprising:

over a network, querying a plurality of NEs for identification information; and

correlating said identification information to identify NEs communicating over an optical link.

12. The method of claim **11** further comprising:

5           ordering said identification information for each NE of identified NEs in an order paralleling an order of said identified NEs in said optical network.

13. The method of claim **12** wherein said correlating comprises correlating red band and blue band information for said each NE.

10           14. The method of claim **13** wherein said correlating comprises first correlating said identification information to identify said identified NEs communicating over said optical link using one of said red band and said blue band.

15           15. The method of claim **14** wherein said correlating comprises second correlating said identification information to identify said identified NEs communicating over said optical link using another of said red band and said blue band.

16           16. The method of claim **15** wherein said correlating further comprises associating said identified NEs communicating over said optical link using said one band with said identified NEs communicating over said optical link using said another red band.

20           17. The method of claim **16** wherein said associating comprises determining a first number of said identified NEs using said one band and a second number of said identified NEs using said another band and comparing first number and said second number.

18. A computer readable medium operable to provide instructions for directing a processor to map a portion of an optical network, said instructions directing said processor to:

identify NEs which, together with optical fibers therebetween, form an optical link;

organize statistical data retrieved from each identified NE into a map which corresponds to the physical layout of said optical link.

19. The computer readable medium of claim **18** wherein said retrieved statistical data comprises performance indicia of said identified NEs.

20. The computer readable medium of claim **18** wherein said instructions directing said processor to identify NEs comprises instructions directing said processor to:

for a selected NE, retrieve data identifying NEs in communication with said selected NE.

21. The computer readable medium of claim **20** wherein said instructions directing said processor to retrieve data identifying NEs in communication with said selected NE comprises instructions directing said processor to:

through communication with said selected NE and said NEs in communication with said selected NE, retrieve identity data corresponding to the identity and configuration of said NEs with which said NE communicates.

22. The computer readable medium of claim **21** wherein said statistical data is retrieved using networked communication.

23. The computer readable medium of claim **22** wherein said identity information retrieved corresponds to wavebands used by said selected NE and said NEs in communication with said selected NE.

24. The computer readable medium of claim **23** wherein said instructions directing said processor to organize comprises instructions directing said processor to:

for each waveband used by said selected NE and said NEs in communication with said selected NE, form a data structure corresponding to said optical link, said data structure comprising a data block for each of said selected NE and said NEs in communication with said selected NE;

associate data structures formed for said optical link with each other; and

populate said data blocks of said data structures associated with said statistical data retrieved.

25. The computer readable medium of claim **24** further comprising further instructions directing said processor to:

display a graphical representation of said optical link, said graphical representation corresponding to said data blocks and data structures.

26. An apparatus for generating a map of a portion of an optical network, said optical network comprising a plurality of network elements (NEs), some adjacent pairs of NEs of said plurality of NEs communicating using optical fibers, one or more of said some adjacent pairs forming optical links, said apparatus comprising:

memory adapted to store computer readable instructions and code;

a network interface adapted to communicate with a data network;

a processor in communication with said memory and said network interface, said processor adapted to retrieve and execute said instructions and code from said memory adapting said processor to:

identify NEs which, together with optical fibers therebetween, form an optical link; and

organize statistical data retrieved from said NEs identified using said network interface into a map which corresponds to the physical layout of said optical link.

- 10 27. The apparatus of claim 26 wherein said statistical data retrieved comprises performance indicia of said NEs.